REMARKS

Claims 1-24 are pending in the Application, all of which stand rejected by the Office Action mailed December 23, 2008. Claims 1 and 19 are amended by this response. Claims 1, 11, and 19 are independent claims. Claims 2-10, 12-18, and 20-24 depend from independent claims 1, 11, and 19, respectively. The Applicant respectfully requests reconsideration of the pending claims 1-24 in light of the following remarks.

Rejections of Claims

Claims 1-24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Rao *et al.*, U.S. Patent No. 7,082,549 (hereinafter "Rao"). (*See* Office Action at p. 5.) For the reasons discussed in previous submissions as well as those detailed below, Applicant respectfully traverses these rejections.

Claims 1 -10 Are Allowable Over The Cited Art

Applicant begins by discussing claim 10. Claim 10 has been amended to clarify what was previously implicit, namely that "each transform pass updates a plurality of memory banks in the associated memory bank order for that transform pass." Applicant respectfully submits that no new matter is added by this amendment. (For example, a generally similar limitation was previously present in claim 11.) Thus, as expressly recited, claim 1 requires a plurality of transform passes, wherein each transform pass is associated with its own memory bank order, and wherein each transform pass updates a plurality of memory banks in the associated memory bank order for that transform pass. Put another way, claim 1 requires a plurality of transform passes, and each transform pass is performed in a memory bank order associated with that particular transform pass. Applicants respectfully submit that Rao cannot anticipate claim 1 at least because Rao does not teach such a plurality of transform passes, with each transform pass performed in a memory bank order associated with that particular transform pass.

In rejecting claim 1, the Office Action asserts that Rao discloses

> an update agent capable of updating the at least one of a firmware component and a software component employing an update process that comprises a plurality of transform passes, wherein each transform pass is associated with its own memory bank order (see for example, Fig. 2, step 207-223 and related text; also see, col. 2, lines 62-65, "...selecting one of the plurality of banks using, ...a specified bank order" and col. 5 line 61 – col. 6, line[] 9, "The bank order specification may be used by update agent 117 to direct the sequence of the update of the various banks of memory such as bank 1 119 through bank N 131, as necessary, in the non-volatile memory 111")

(Office Action at p. 6.) The Office Action additionally cites "Fig. 1, item 117, 'Update Agent' and related text" in rejecting a generally similar limitation in claim 11. In responding to previous points raised by Applicants regarding the allowability of claim 1, the Office Action states,

> However, it should be noted that claim language merely recites a term "transform pass" and thus it can be reasonable interpreted as – a [sic] update step – which is in compliance with definition "an update process that comprises a plurality of transform passes" as recited in the claim 1. Rao discloses a method for updating non-volatile memory having a plurality of banks, wherein, the step (transform pass) including selecting memory bank based on the specified bank order (memory bank order) see for example, col. 2, lines 62-65, "...selecting one of the plurality of banks using, ...a specified bank order" [emphasis added]; also see col. 5, line 61- col. 6, line[] 9, "The bank order specification may be used by update agent 117 to direct the sequence of the update of the various banks of memory such as bank 1 119 through bank N 131, as necessary, in the non-volatile memory 111" [emphasis added] Therefore, as Rao uses specified bank order to select a memory bank to update from first version to second version (transform pass), it is clear that the update step (transform step) is associated with its own memory bank order which is specified by the specified bank order in the received updated package. Thus, Rao's disclos[ure] still teaches said limitation as recited in claim 1.

(*Id.* at p. 3.) Applicant respectfully submits this assertion, as explained by the Office Action, cannot properly support an anticipation rejection. As an initial matter, it is difficult for Applicants to discern precisely which aspect of Rao the Office Action is asserting as disclosing the claimed "transform pass." For example, the Office Action refers to "the step (transform pass) including selecting memory bank based on the specified bank order." The Office Action also refers to using "a specified bank order to select a memory bank to update from first version to second version (transform pass)," as well as states, "it is clear that the update step (transform step) is associated with its own memory bank order..." Thus, it appears possible the Office Action is asserting either the entire update process of all blocks (i.e., "update from first version to second version"), or the update of a single block (i.e., "the update step (transform step) is associated with its own memory bank order"; "the step (transform pass) including selecting memory bank based on the specified bank order") as a claimed "transform pass." In any event, neither of those possibilities (or any other aspect of the cited and discussed portions of Rao in the Office Action) discloses the plurality of transform passes as claimed. Even if interpreted as advanced by the Office Action, the bank-by-bank updating disclosed in the cited portions of Rao is quite different from, and does not disclose, the presently claimed subject matter.

For example, to the extent the Office Action relies upon the entire update process of Rao as disclosing a transform pass that specifies a "specified bank order," the entire update process cannot disclose a plurality of transform passes, but instead could disclose, at most, one pass. To the extent the Office Action relies upon the update (or portion of an update) of a single memory bank in Rao as a "transform pass," the update of a single bank, by definition, cannot update a plurality of memory banks in the associated memory bank order for that transform pass, as required by claim 1 for each transform pass. Such an update of a single memory bank cannot disclose a transform pass updating a plurality of memory banks, let alone a transform pass updating a plurality of memory banks in an associated memory bank order as claimed.

Put another way, the Office Action appears to be relying at times on the entire updating of all memory banks as a transform pass, but that asserted interpretation

cannot disclose a plurality of transform passes as required by claim 1. At other times, the Office Action appears to be relying on the update of a single memory bank as disclosing a transform pass, but that asserted interpretation also cannot disclose each transform pass updating a plurality of memory banks in an associated memory bank order as also required by claim 1. Because the Office Action does not identify a plurality of transform passes as arranged as required by claim 1 (for example, a plurality of transform passes, wherein each transform pass is associated with its own memory bank order, and wherein each transform pass updates a plurality of memory banks in the associated memory bank order for that transform pass), Applicant respectfully submits that the Office Action does not present a *prima facie* case of anticipation. (*See*, *e.g.*, MPEP § 2131.)

Turning to the cited portions of Rao, Applicant respectfully submits that the cited portions of Rao do not disclose "an update agent capable of updating the at least one of a firmware component and a software component employing an update process that comprises a plurality of transform passes, wherein each transform pass is associated with its own memory bank order, and wherein each transform pass updates a plurality of memory banks in the associated memory bank order for that transform pass" as claimed by claim 1. For example, the first cited portion (namely step 207-223 and related text), reads as follows:

> FIG. 2 is a flow chart illustrating an exemplary method of startup of a mobile handset such as the mobile handset 107 of FIG. 1, in which a fault tolerant update agent is invoked to conduct firmware/software update operations, in accordance with the present invention. The processing starts when the mobile handset is powered up or rebooted (block 207). Next, the initialization or boot sequence is executed (block 209). A determination is then made whether an update of the firmware/software of the mobile handset is to be conducted (block 211). For example, in one embodiment, a status table may be accessed to determine if a flag in the status table indicates a need to update firmware/software using an update package previously downloaded and available in the mobile handset.

> If it is determined that an update is not necessary, then the regular startup procedure of the mobile handset is executed (block 225) and startup processing terminates (block 221). If, however, it is determined that an update is necessary, then the point where the fault-tolerant update agent should resume the update process is determined (block 213). For example, that point may be at the beginning, for a newly begun update operation, or at a specific bank of non-volatile memory, in the case of a previously initiated but interrupted update operation. Next, the various operations related to the fault-tolerant update process are conducted by the update agent (block 215). finally, the update agent initiates a reboot of the mobile handset (block 223).

(Rao, 8:14-40.) Applicants respectfully submit that this portion of Rao is silent with respect to any mention of memory bank order, let alone to "a plurality of transform passes, wherein each of the plurality of transform passes is associated with its own memory bank order..." as claimed. Further, this portion is silent with respect to a plurality of transform passes as claimed, even assuming, *arguendo*, that an "update operation" could be interpreted as a single transform pass. While this portion does mention a "fault-tolerant update process," Applicant respectfully submits that such a teaching cannot be stretched so far as to disclose a plurality of transform passes as claimed.

The next cited portion, column 2, lines 62-65, states, "...update instruction and selecting one of the plurality of banks using at least one of at least a cyclic redundancy check, a message digest, a digital signature, a checksum, and a specified bank order. Such a method may also comprise...." Applicants note that this cited portion does reference a "specified bank order" and "selecting one of the plurality of banks." However, the mere mention of a specified bank order does not disclose a plurality of transform passes, or a transform pass having an associated memory bank order wherein each transform pass updates a plurality of memory bank in the associated memory bank order for that transform pass, let alone the plurality of transform passes as recited by claim 1. For example, if the "specified bank order" and/or "selecting one of

the plurality of banks" relates to the entire update, it cannot disclose "a plurality of transform passes." If it relates to a memory bank being updated in a bank-by-bank process, it cannot disclose "wherein each transform pass updates a plurality of memory banks..."

The Office Action next relies on col. 5, line 61 – col. 6, line 9. That portion of Rao reads as follows:

> The update agent 117 in an embodiment of the present invention may employ a bank order specification. The bank order specification may be determined during the creation of the update package, and may be received from the update package repository 137 as part of the corresponding update package. The bank order specification may be used by update agent 117 to direct the sequence of the update of the various banks of memory such as bank 1 119 through bank N 131, as necessary, in the non-volatile memory 111. The use of a bank order specification may permit the size of the update package to be optimized by controlling the bank update sequence. The update agent 117 may copy each of the bank 1 119 through bank N 131 to the working bank 125 according to the bank order specification, so that they may be modified or updated before they are written back into non-volatile memory area 111.

Applicant respectfully submits that such a "bank order specification" as described in the above cited portion of Rao relates to a single sequence, as the cited portion begins, for example, "The update agent 117 in an embodiment of the present invention may employ **a bank order specification**." (emphasis added.) Moreover, the bank order specification is used to update banks of memory "such as bank 1 119 through bank N 131, as necessary." Thus, this cited portion of Rao is silent with respect to a plurality of transform passes (wherein each of the plurality of transform passes is associated with its own memory bank order), as it discusses only one bank order specification, and, thus, at most, one "transform pass" (to the extent the Office Action asserts such an update of all of memory banks as a transform pass).

The Office Action also references "Fig. 1, item 117, 'Update Agent' and related text," which would appear to include col. 5, line 61 – col. 6, line 9, cited above.

Applicant reviewed the remainder of the discussion of Fig. 1, which spans several columns and therefore is not repeated in its entirety herein. Applicant does not understand any portion of that discussion to remedy the above discussed portions to disclose the presently claimed subject matter at issue. To the extent the Office Action asserts any part of that discussion as remedying the above discussed shortcomings in the cited teachings, Applicant respectfully requests a specific identification of that disclosure and explanation of how that disclosure discloses the presently claimed subject matter.

As a result, for at least the reasons discussed above, Applicants respectfully submit that the cited portions discussing a bank-by-bank update in Rao do not disclose the subject matter claimed by claim 1, and that therefore Rao does not anticipate claim 1 or any of its dependent claims, and that those claims are allowable over Rao.

Claims 11-18 Are Allowable Over The Cited Art

Turning now to independent claim 11, and claims 12-18 that depend therefrom and therefore include all of the limitations of claim 11, Applicant notes that claim 11 recites a mobile handset comprising a plurality of memory banks containing at least one of a firmware and a plurality of software components, the mobile handset comprising, *inter alia*, "an update agent capable of updating at least a portion of the at least one of firmware and a plurality of software components, the update agent employing an update process that comprises a plurality of transform passes, wherein each of the plurality of transform passes is associated with its own memory bank order, and wherein each transform pass updates the plurality of memory banks in the associated memory bank order for that transform pass." The Office Action provides generally the same citations and rationale in rejecting claim 11 that it uses regarding claim 1. Applicant respectfully submits that claim 11 is therefore allowable for similar reasons as discussed above with respect to claim 1.

Claim 11 also recites "a set of decision maker banks identified within the plurality of memory banks, one decision maker bank for each of the plurality of transform

passes, the set of decision maker banks used to determine which of the plurality of transform passes was interrupted, in order that the update process may be subsequently reattempted beginning with the interrupted transform pass." The Office Action cites col. 8, lines 41-62 and col. 5, lines 61 – col. 6, line 9 in asserting that Rao discloses this aspect of claim 11.

The second cited portion (col. 5, lines 61 – col. 6, line 9) has been reproduced and discussed above. Column 8, lines 41-62 of Rao read as follows:

> FIG. 3 is a flow chart illustrating an exemplary method of performing a fault tolerant update of a mobile handset such as the mobile handset 107 of FIG. 1 wherein a working bank, a backup bank, and a plurality of updateable original banks are employed in the update process, in accordance with the present invention. The process starts when the mobile handset detects that an update of firmware/software is necessary, and the point in memory at which the update needs to begin or resume is determined (block 307). For example, in one embodiment of the present invention, the point at which update processing should begin or resume may be determined using a verification process in which a CRC value is computed for each bank of non-volatile memory being updated. The computed value for each bank is then compared to the corresponding pre-computed value in a list of CRC values provided within the update package containing the firmware/software. The comparison continues in a bank-by-bank fashion through the list until a bank of non-volatile memory is encountered where the computer CRC value fails to match the value in the list for that bank. The failed match indicates an anomaly or corruption, thus indicating the point at which the update activity should start or resume.

Thus, the cited portion relates to a "fault tolerant update of a mobile handset." As an initial matter, Applicants respectfully submit this portion of Rao is similarly silent with respect to "a plurality of transform passes..." as claimed, and does not remedy the previously discussed shortcomings of the other cited portions. While this portion does state, as the Office Action notes, "The comparison continues in a bank-by-bank fashion through the list until a bank of non-volatile memory is encountered where the computed CRC value fails to match the value in the list for that bank," Applicant respectfully

submits such a disclosure does not disclose "a set of decision maker banks identified within the plurality of memory banks, one decision maker bank for each of the plurality of transform passes, the set of decision maker banks used to determine which of the plurality of transform passes was interrupted, in order that the update process may be subsequently reattempted beginning with the interrupted transform pass" as claimed. For example, a mere disclosure that a bank is encountered where a CRC value fails to match does not disclose **a decision maker bank for each** of the plurality of transform passes, as such a teaching does not teach associating a decision maker bank with a particular transform pass, or a plurality of transform passes, let alone a decision maker bank as claimed. This is even more so in light of the cited portions of Rao not disclosing the plurality of transform passes as claimed in the first place, as discussed above.

For at least the above reasons, Applicant respectfully submits that the cited portions of Rao do not disclose the subject matter claimed by claim 12, and that therefore Rao does not anticipate claim 12 or any of its dependent claims, and that those claims are allowable over Rao.

Claims 19-24 Are Allowable Over The Cited Art

Turning now to independent claim 19 and its dependent claims, Applicant notes that claim 19 has been amended for clarification generally similarly to claim 1 and recites a method for recovering from interruption of a fault-tolerant process of updating a mobile handset comprising a plurality of memory banks from a first firmware version to a second firmware version, the update process comprising a plurality of transform passes and having a transform pass order, each of the plurality of transform passes performing a transform upon the plurality of memory banks in a memory bank order, the method comprising, *inter alia*, "determining as a recovery transform pass, one of the plurality of transform passes interrupted during the update process, wherein each of the plurality of transform passes is associated with its own memory bank order, and wherein each transform pass updates a plurality of memory banks in the associated memory bank order for that transform pass." As such, Applicant respectfully submits that the cited

portion of Rao do not disclose the subject matter claimed by claim 19, and that therefore Rao does not anticipate claim 19 or any of its dependent claims, and that those claims are allowable over Rao.

Conclusion

In general, the Office Action makes various statements regarding the pending claims and the cited reference that are now moot in light of the above. Thus, Applicant will not address such statements at the present time. However, Applicant expressly reserves the right to challenge such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a rejection of any current or future claim).

Applicant believes that all of pending claims 1-24 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, Applicant invites the Examiner to telephone the undersigned at (312) 775-8000.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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